

What is claimed is:

1. A signal discrimination apparatus for classifying a type of an input signal into a voice and a data, the discrimination apparatus comprising:

first detection means for detecting a tone signal of a specific frequency from said input signal;

second detection means for detecting a specific signal used in a start-up procedure of a modem signal from said input signal; and

discrimination means for classifying the type of said input signal based on outputs of said first and second detection means;

wherein, when said specific signal has not been detected, a signal discrimination result in the case of said tone signal being detected is made to be a voice state, and when said specific signal has been detected, a signal discrimination result in the case of said tone signal being detected is not made to be a voice state.

2. The signal discrimination apparatus according to claim 1, wherein said start-up procedure is a V.34 procedure.

3. The signal discrimination apparatus according to claim 1, wherein said start-up procedure is a V.8 procedure.

4. The signal discrimination apparatus according to claim 1, wherein said second detection means is an ANSam signal detector for detecting the ANSam signal in the V.8 procedure.

5. The signal discrimination apparatus according to claim 4, wherein, instead of said ANSam signal detector,

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third detection means for detecting a tone signal of a specific frequency from said input signal is used.

6. The signal discrimination apparatus according to claim 5, wherein the tone signal of the specific frequency which said third detection means detects is a tone signal of 2100 Hz.

7. The signal discrimination apparatus according to claim 1, wherein said second detection means is a V.21 modem signal detector which detects a V.21 (channel No. 2) modem signal in the V.8 procedure.

8. The signal discrimination apparatus according to claim 1, wherein said second detection means is a JM signal detector which detects a JM signal in the V.8 procedure.

9. The signal discrimination apparatus according to claim 1, wherein said second detection means is an INFO0a signal detector which detects an INFO0a signal in the start-up procedure of the modem.

10. The signal discrimination apparatus according to claim 1, further comprising an activity detector for judging an active/inactive state of said input signal, wherein, after a specific signal used in the start-up procedure of the modem signal has been detected, when an inactive state continues for a predetermined time, a detection state of said specific signal is initialized.

11. The signal discrimination apparatus according to claim 1, further comprising a first activity detector for judging an active/inactive state of a transmitting side signal and a second activity detector for judging an

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active/inactive state of a receiving side signal, wherein, after a specific signal used in the start-up procedure of the modem signal has been detected, when both the transmitting side and the receiving side continue to be in an inactive state for a predetermined time, the detection state of said specific signal is initialized.

12. The signal discrimination apparatus according to claim 1, further comprising a continuity check test tone detector for detecting a tone signal of a specific frequency sent for the purpose of a continuity check test of a channel from said input signal, wherein, after said specific signal used for the start-up procedure of modem signal has been detected, when the tone signal of the specific frequency sent for the purpose of the continuity check test of said channel is detected, the detection state of said specific signal is initialized.

13. The signal discrimination apparatus according to claim 1, wherein the tone signal of the specific frequency which said first detection means detects is a tone signal of 2400 Hz.

14. A signal discrimination method for classifying a type of an input signal into a voice and a data,

said signal discrimination method including:

a first step of detecting a tone signal of a specific frequency from said input signal:

a second step of detecting a specific signal used in a start-up procedure of a modem signal from said input signal; and

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a third step of setting a specific signal detection flag when said specific signal is detected,

wherein, when said specific signal detection flag is not set, a signal discrimination result in the case of the tone signal of said specific frequency being detected is made to be a voice state, and when said specific signal detection flag is set, a signal discrimination result in the case of the tone signal of said specific frequency being detected is not made to be a voice state.

15. The signal discrimination method according to claim 14, wherein said start-up procedure is a V.34 procedure.

16. The signal discrimination method according to claim 14, wherein said start-up procedure is a V.8 procedure.

17. The signal discrimination method according to claim 14, wherein said specific signal is an ANSam signal in the V.8 procedure.

18. The signal discrimination method according to claim 14, wherein said specific signal is a V.21 (channel No. 2) modem signal in the V.8 procedure.

19. The signal discrimination method according to claim 14, wherein said specific signal is an INFO0a signal in the start-up procedure of the modem.

20. The signal discrimination method according to claim 14, wherein, after said specific signal used in the start-up procedure of modem signal has been detected, when both a transmitting side and a receiving side continue to

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be in an inactive state for a predetermined time, a detection state of said specific signal is initialized.

21. The signal discrimination method according to claim 14, further comprising a fourth step of detecting a tone signal of a specific frequency sent for the purpose of a continuity check test of a channel from said input signal, wherein, after said specific signal used for the start-up procedure of modem signal has been detected, when the tone signal of the specific frequency sent for the purpose of the continuity check test of said channel is detected, the detection state of said specific signal is initialized.

22. The signal discrimination method according to claim 14, wherein the tone signal of the specific frequency detected in said first step is a tone signal of 2400 Hz.

23. A transmission equipment comprising:

a signal discrimination apparatus according to claim 1 for classifying a type of an input signal into a voice and a data;

encoding means for encoding said input signal at an adequate encoding bit rate in a low bit rate encoding fashion based on a signal discrimination result of said signal discrimination apparatus;

transmitting means for transmitting encoded data encoded by said encoding means;

receiving means for receiving the encoded data sent by an opposed equipment side; and

decoding means for decoding the encoded data received from said receiving means.

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